CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/WNo.17/KS/WMM/Gradation/2014-15 16.04.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K. Shivakumar,** Contractor, Bangalore.

Name of Work : Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.

Reference : EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

Sample ID : WMM Layer Oven Dry Wt (gm): 7795

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	215	215	2.8	97.2	95-100
22.4	2585	2800	35.9	64.1	60-80
11.2	1350	4150	53.2	46.8	40-60
4.75	1020	5170	66.3	33.7	25-40
2.36	900	6070	77.9	22.1	15-30
0.600	750	6820	87.5	12.5	8-22
0.075	600	7420	95.2	4.8	0-8

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

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M/s. Civil-Tech Consultants & Engineers
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GRADATION FOR WMM
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Agency : **Mr. K. Shivakumar,** Contractor, Bangalore.

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Reference : EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

Sample ID : WMM Layer

Oven Dry Wt (gm): **7515**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	315	315	4.2	95.8	95-100
22.4	2105	2420	32.2	67.8	60-80
11.2	1315	3735	49.7	50.3	40-60
4.75	1150	4885	65.0	35.0	25-40
2.36	910	5795	77.1	22.9	15-30
0.600	750	6545	87.1	12.9	8-22
0.075	700	7245	96.4	3.6	0-8

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16.04.2014

GRADATION FOR WMM
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Agency : **Mr. K. Shivakumar,** Contractor, Bangalore.

Name of Work : Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.

Reference : EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

Sample ID : WMM Layer

Oven Dry Wt (gm): **7835**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	220	220	2.8	97.2	95-100
22.4	2625	2845	36.3	63.7	60-80
11.2	1310	4155	53.0	47.0	40-60
4.75	1025	5180	66.1	33.9	25-40
2.36	835	6015	76.8	23.2	15-30
0.600	820	6835	87.2	12.8	8-22
0.075	610	7445	95.0	5.0	0-8

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Job No.: CTCE/BBMP/WNo.17/KS/WMM/AIV/2014-15 16.04.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Sample ID	WMM Layer
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	378	381	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	79	82	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines	20.90	21.52	
	100* (W_2/W_1)%			21.21

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

Note:

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